etc.; the second, that the disease may result from the irruption or primary formation of miliary tubercular nodules in the urino-genital mucous membrane, and that an essential element in the destruction of the kidney tissues is the subsequent catarrhal complication (Rindfleisch). I have striven to show why neither of these views is a satisfactory explanation of these cases.

What I wish to render prominent is that the catarrhal process is a pre-existent factor; pathological anatomy does not recognize anything that can be called tubercular, similar to the materials here found occupying the ureter, the kidney, and its pelvis; that the products here found are essentially catarrhal in their origin; that, so long as our present theories of tuberculization hold, the tubercular deposit (miliary nodules) found in the genito-urinary mucous membrane must have, as their anatomical basis, a pre-existent cheesy mass somewhere in the body.

Finally, I think that what we are taught by these specimens is that this is a catarrhal—not pneumonia, for we are dealing with a kidney—nephritis; that this chronic catarrhal disease can cause, by softening, a vomica in the renal tissue; and that the cheesy-metamorphosed mass is, or the catarrhal products themselves alone may be, the anatomical basis of the infection of the system with miliary tubercle—the same picture which we see so frequently in catarrhal disease of the lung.

PHILADELPHIA, 333 S. 12th Street.

ARTICLE VI.

SYPHILIS OF THE LUNG.

By L. MCLANE TIFFANY, B.A. (Cantab.), M.D., Professor of Operative Surgery in the University of Maryland.

THE occurrence of syphilitic deposit in the lungs of adults under the form of gummy tumours is at the present time a well-recognized condition. The occurrence of a diffused gummy deposit, an interstitial pneumonia capable of running into syphilitic phthisis, is not so well appreciated in either its ante- or post-mortem language. The following cases appear to be examples of this latter form of disease. The microscopic appearances have revealed nothing distinctive to my eye; on the other hand, the macroscopic aspect is very striking, and in two cases (4 and 5) of those reported led to a careful search for, and a discovery of, the syphilitic antecedents:—

CASE 1.—M. C., æt. 23 years, negress, inmate of Baltimore City Almshouse; first seen March 14, 1876; at this time was nursing her child, a baby aged six months. Child was suffering from congenital syphilis, and died one month later. Autopsy of child showed several gummy tumours in each lung. M. C. had been taking no syphilitic remedies. There were both on body and limbs remains of a squamous eruption; the lymphatic glands enlarged in groin, neck, axilla, and above internal epicondyle of humerus; had lost flesh greatly; had very little milk for baby; was troubled with persistent cough.

Physical examination of chest gave evidence of thickening about middle of each lung, amounting almost to consolidation in left.

Treatment. Mercurial inunction, iodide of potassium in syr. iodide of iron and cod-liver oil, internally. For a time improvement manifest; later, patient became unruly, submitting to treatment very irregularly.

From June 1st decline in strength, with emaciation, progressive. Consolidation of lung tissue increased; cavity became apparent in each lung. In July both sides of chest became very resonant; emphysema; during last three weeks of life respiration almost entirely abdominal—thorax moving but slightly. Occasional diarrhœa during last month of life. Died Aug. 25. Asthenic.

Autopsy (a few hours after death).—External examination revealed great emaciation, and enlargement of glands in situations already indicated. Cranium: nothing of moment. Abdomen: spleen contracted to size of a lemon, with deep cicatrice on convex surface. At one point of cicatrice a small cretaceous mass. Ulcer in cæcum size of half-dollar. Peritoneum, etc., normal. Thorax: heart normal. Glands around bronchi enlarged. Both lungs stiff, white, firm, elastic. Almost entire left lung involved; lower portion of right lung comparatively healthy.

A large cavity in middle of each lung—larger in left. Incomplete septa subdividing cavity. Sinuous tracks extending through stiff lung tissue, and opening under pleura by orifices one-fourth of an inch in diameter in several instances. Tracks ran very irregularly, up and down as well as outwards. Pleura, thickened and white, was raised in bullæ over the track orifices. No pleuritic adhesions. Parietal pleura healthy. Cavities contained white pultaceous matter like broken-down lung tissue; mucous membrane of bronchi inflamed; vessels of lung not traceable through white tissue. The cut surface of the lung presented a smooth lardaceous appearance, unlike either a pneumonia or tubercular deposit. No tubercles found.

CASE 2.—A. R., white, male, æt. 30 years, entered Baltimore Infirmary (date omitted in my notes). Several deep scars on body and limbs. He suffered from nocturnal pains, evident syphilitic disease of various bones. Physical examination revealed induration of upper portion of each lung; small cavity in left. Treated with iodide of potassium, small doses of mercury, tonics, etc. Improved greatly, and was discharged to resume work, seaman. Re-entered Infirmary three months later; condition much worse; died in a few days.

Post-mortem examination revealed general syphilitic disease of osseous system, nodes, etc.

Both lungs were stiff, gray, and elastic. The upper two-thirds of the left lung was occupied by a cavity from which sinuses passed into the lower third. Imperfect septa partially divided this cavity into smaller ones. One or two sinuses traversed the lung tissue to within a short distance of the surface. At these points the pleura was somewhat thickened and white, but not adherent to the chest wall. The right lung contained a small cavity in the upper lobe, not at the apex, however, and from this a sinus passed down into the middle lobe. Within the cranium, abdomen, etc., nothing of interest.

CASE 3.—Negro woman, æt. 60 years; seen only after death. Inmate of Baltimore City Almshouse. Many scars resulting from deep ulceration visible on limbs and body. Bones of the head thickened, and in some places carious. Nodes on humerus right and left; ulna and radius also in each forearm; both tibiæ nodular. Dura mater corresponding to thickened calvarium, red, vascular, an eighth of an inch thick, of the consistence of chamois leather. Thorax: heart more firm and white than usual. Right lung about the size of a closed fist, gray, leathery, firm, non-crepitant, contained no air. Pleura thickened and dry; no adhesions between opposed pleural surfaces. Left lung greatly increased in size, pushing heart over to right side of sternum; no appearance of disease. No tubercles. Abdomen showed nothing of interest.

CASE 4.—W. B., coloured, æt. 23 years. Had led an irregular life. First seen Aug. 27, 1876. Physical examination showed compensative respiration over whole of right lung. Left lung: large cavity in centre. Amphoric voice and respiration. Bronchial râles at apex and base. Œdema of face and upper extremities; many cicatrices scattered over body resulting from deep ulcerations. Acknowledged syphilis. Slight diarrhœa occasionally. Patient very weak and feeble. Treatment ordered: cod-liver oil, iron, whiskey, fresh air and sunshine.

September 6. Discharged by request "to see his friends." Condition unchanged.

10*th*. Readmitted. Condition much worse. General œdema of subcutaneous tissue everywhere; much weaker. No albumen in urine. Died Sept. 20.

Post-mortem examination twelve hours after death. External inspection showed deep cicatrices, fifteen or twenty in number. Both tibiæ enlarged and nodular. Abdomen: two flat, thickened patches on peritoneum (gummata?). Two small follicular ulcers in ileum, 2 lines in diameter. Liver studded with gummy tumours (8 or 10) of different sizes, the largest ¼ inch in diameter, both in the substance and on surface of that organ. Thorax, right lung: two small gummy tumours in lower lobe, about size of peas. Tissue otherwise healthy. Left lung: large cavity in middle of lung, with stiff walls; from this cavity, both upwards and downwards, sinuous tracks passed into the lung tissue, extending to pleura. Cavity contained a pultaceous white substance in quantity ℥iss. Stiff bands passed across the cavity in various directions. The entire lung was enlarged, firm, grayish-white; very elastic, like India-rubber, bounced from the table when dropped upon it, and weighed 3 lbs. 8 oz. When cut across and washed, the lung retained its shape, showing cavities, etc. The bronchial tubes, thickened and lessened in calibre, opened freely into the central cavity. The vessels, greatly lessened in calibre or entirely occluded, could be traced through various parts of the lung. The pleura, covering the left lung, was thickened, white, and raised into a bleb over the spots where the sinuous tracks through the lung opened against its under surface. At one point only was there adhesion to the parietal pleura, the locality corresponding to the spot where the large cavity (pulmonary) was bounded externally by the visceral pleura only.

CASE 5.—A negro man about twenty-five years of age was admitted to the City Almshouse, and died four hours later. The lungs came into my possession, but I did not obtain a thorough examination of the body. The right lung was healthy. The left lung was increased in size, hard, elastic, and light-gray in colour. The upper half of the lung was transformed into a large cavity, across which ran bands of gray tissue. Many of these bands were vessels still pervious to a moderate-sized probe. Sinuses ran down into the lower lobe. Bronchial tubes opened freely into the cavity. Pleura thickened; no adhesions between visceral and parietal pleura.

This patient had led an irregular life and was believed to have had syphilis. As I did not examine the body for evidences of the disease, proof that syphilis did exist is unfortunately wanting. The appearance presented by the lung was so similar to that presented by the other cases reported as to cause me to class them together.

Not finding other visceral lesion must, in the present state of our knowledge, leave the case doubtful.

Here then are five cases, or, omitting Case 5, four cases, all suffering from the effects of syphilitic poison to a profound degree, as instanced by visceral lesion, other than pulmonary, and all presenting disease of the lung not only similar the one to the other in many respects, but differing decidedly from the usual run of pulmonary pathology. Analysis of the cases shows that in three patients one lung only was affected—the left twice, the right once. In two cases both lungs were diseased, in each the left being more involved than the right. In four cases out of five the left lung was more diseased than the right.

The weight of the affected lung was in every instance increased, except Case 3. In Cases 4 and 5, where one lung only was affected, the increase in weight was very marked, Case 4 weighing 3 lbs. 8 ozs. The same may be said of the size. Where both lungs were affected the increase in size was moderate; where one lung only was affected, except in Case 3, the increase in bulk was great, pushing the heart to the opposite side.

The portion of lung affected was stiff, tough, elastic, resisting pressure, homogeneous on section, and fading off into the surrounding tissues. On section did not collapse. Cut surface not very moist, and appeared similar to subpleural surfaces. Did not contain air, non-crepitant. The entire mass of induration presented the same color throughout—a dull-gray, scarcely at all pigmented. Nowhere was an appearance of vascularity visible.

As the bloodvessels entered the indurated territory their walls became thickened, the lumen diminished and rapidly closed. For a certain distance, as solid cords, the vessels could be traced, soon, however, to be merged into the gray blank. In Case 5 the vessels could be traced as described, differing notably from the other four patients. Here the vessel walls were soft and nodular; in no instance was the vessel patent quite across the cavity.

The walls of the bronchial tubes were thickened and their calibre lessened, the mucous lining inflamed, and the tubes opened by irregular orifices into cavities. Where the induration had not become excavated the bronchial tubes were occluded by thickening of their walls and apparently outside pressure.

There is apparent a tendency to the formation of a large cavity about the middle of the lung rather than towards the base or apex, and from this as a centre irregular paths of ulceration extend through the indurated area. These paths of ulceration may run across as well as parallel to the known direction of the bronchial tubes or bloodvessels. In Cases 1 and 4 the tracks of ulceration opened beneath the pleura by rounded orifices with smooth bevelled edges. Across the cavity passed bands and incomplete septa, subdividing it into smaller compartments all freely communicating.

In Case 2, water poured into the cavity at the apex of the lung flowed from the lowest sinus which opened at the base. The bands and septa were of the general gray colour. The walls of the cavities were gray, ragged, and without any appearance of vascularity. In Cases 1 and 4 the large cavity contained a necrotic portion of the neoplasm.

Adhesion between the opposed pleural surfaces occurred once only (Case 4) at a point where a large cavity opened upon the lung surface. Opposite the openings of the tracks of ulceration the visceral pleura was raised into bullæ, elsewhere this membrane was normal, or but slightly thickened. The emphysema of Case 1 was entirely subpleural.

Cases 1 and 4 showed points of ulceration near ileo-cæcal valve.

Case 1 showed small cretaceous mass (gummy tumour?) attached to spleen; no other cretaceous mass found in either patient. No tubercles recognized in either of the cases. As already mentioned the microscopic examination showed nothing distinctive.

The clinical history of three cases out of the five reported is known. (Cases 1, 2, and 4.)

Case 2 began to improve at once on the institution of treatment, so that his history is one of convalescence from the start. Anti-syphilitic treatment in two cases (1 and 2) was adopted. Case 1 improved for a time. Case 2 was able to resume his occupation. Case 4 came under my care but a day or two before his death; it is to be regretted that even then a line of treatment as in Cases 1 and 2 was not instituted.

Case 3, while presenting numerous signs of profound syphilitic dyscrasia, shows a condition of lung different from any other. I am inclined to look upon this patient as exhibiting a later stage of the same pulmonary disease as that from which the others suffered; the gummy deposit, instead of suppurating or breaking down, has gone on to cicatrize and contract, the function of the affected lung being permanently interfered with.

Although the cases reported are too few in number to permit conclusions to be drawn from them, yet they may with propriety be said to suggest the following opinions:—

1st. There may occur in the syphilized human being, adult, coincident with the period of gummy deposits, a peculiar gray infiltration of the lung.

2d. This infiltration is situated by preference near the middle, rather than the base or apex, of the lung.

3d. The tendency of the infiltrated territory is to break down irregularly, producing a ragged cavity.

4th. The infiltration may exceptionally cicatrize.

5th. The course pursued by the infiltration is influenced by anti-syphilitic treatment.

6th. Notwithstanding the formation of cavities, etc., pleuritic adhesions are rare.

ARTICLE VII.

REPORT OF THREE CASES OF TRACHEOTOMY. By GEO. W. RACHEL, M.D., of New York. (Read before the New York Medico-Chirurgical Society of German Physicians, December 18, 1876.)

IN each one of the three cases of tracheotomy here reported, the stenosis of the larynx was caused by different pathological conditions. In the first one it was diphtheritic croup, *i. e.*, the laryngostenosis was caused by an exudation that appeared first above the glottis; in the second case it was true croup, *i. e.*, the membranous exudation had its seat in the larynx from the beginning, not having been localized previously in either mouth, nose, or pharynx; in the third case it was so-called pseudo-croup, *i. e.*, an acute laryngeal catarrh, causing suddenly a considerable swelling of the mucous lining and an œdematous infiltration of the loose areolar tissue of the larynx.

The first two cases are of considerable interest, because of the age of the children, both being below two years of age. The first ended in recovery in spite of many adverse circumstances. The third is one of those rare cases in which a patient is suddenly attacked with acute laryngitis, which causes alarming symptoms, defying all therapeutic agents and calling for immediate surgical interference.

CASE I.—J. S., aged 18 months, always healthy and strong; had suffered from bronchial catarrh twice, but never very severely.

On Dec. 12, 1875, I was called in the morning to see the boy, and found he had been coughing for a few days, his nose had been running, and he was slightly hoarse. The previous night he became feverish, his cough barking, and breathing impeded, which I found was caused by some obstruction in the larynx. His left nostril was filled with grayish-white exudation, and on the posterior wall of the pharynx there were also a few patches. The palate, uvula, and tonsils, although somewhat reddened and swollen, were free from false membrane. The lymphatics behind and below the left angle of the inferior maxilla were hard, swollen, and painful. Temperature 103°.

I ordered applications of ice to the throat and neck, and injections into the nose every hour of a solution of carbolic acid and hyposulphite of soda, equal parts, in water. In addition chlorate of potassa in solution, and a few doses of the golden sulphate of antimony were prescribed.